



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0597; Project Identifier MCAI-2022-00638-T; Amendment 39-22074; AD 2022-11-51]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes. This AD was prompted by a report of an in-flight detachment of a right-hand wing tip and the subsequent determination that cracks could develop on the wing tip connection area that can affect its structural integrity to the point of an in-flight detachment. This AD requires a detailed inspection for cracks of the affected wing tip connections, corrective action if necessary, and revision of the existing maintenance or inspection program, as specified in an Agência Nacional de Aviação Civil (ANAC) AD, which is incorporated by reference. The FAA previously sent an emergency AD to all known U.S. owners and operators of these airplanes. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective on [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Emergency AD 2022-11-51, issued

on May 13, 2022, which contained the requirements of this amendment, was effective with actual notice.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For material incorporated by reference (IBR) in this AD, contact ANAC, Aeronautical Products Certification Branch (GGCP), Rua Dr. Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, Brazil; telephone 55 (12) 3203-6600; email pac@anac.gov.br; Internet www.anac.gov.br/en/. You may find this IBR material on the ANAC website at <https://sistemas.anac.gov.br/certificacao/DA/DAE.asp>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at

the FAA, call 206-231-3195. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0597.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0597; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Krista Greer, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3221; email Krista.Greer@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-0597; Project Identifier MCAI-2022-00638-T” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Krista Greer, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3221; email Krista.Greer@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued Emergency AD 2022-11-51, dated May 13, 2022 (the emergency AD), to address an unsafe condition on Embraer S.A. Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes. The FAA sent the emergency AD to all known U.S. owners and operators of these airplanes. The emergency AD requires a detailed inspection for cracks of the affected wing tip connections, corrective action if cracks are found, and revision of the existing maintenance or inspection program to include a revised threshold and interval for a certain airworthiness limitations task.

The emergency AD was prompted by Emergency AD 2022-05-02, effective May 13, 2022 (ANAC Emergency AD 2022-05-02) (also referred to after this as the Mandatory Continuing Airworthiness Information, or the MCAI), issued by ANAC, which is the aviation authority for Brazil, to correct the unsafe condition for certain Embraer S.A. Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes. ANAC Emergency AD 2022-05-02 was prompted by a report of an in-flight detachment of a right-hand wing tip. Subsequently it was determined that cracks could develop on the wing tip connection area that can affect its structural integrity to the point of an in-flight detachment. This condition, if not addressed, even if sufficient controllability of the airplane is maintained for the safe continuation of the flight, could result in the detached part damaging other airplane parts and affecting controllability, as well as damaging property and injuring persons on the ground.

See the MCAI for additional background information.

Related Service Information under 1 CFR Part 51

ANAC Emergency AD 2022-05-02 specifies procedures for a detailed inspection for cracks of the affected wing tip connections, corrective action including rework of the wing spar 1 or repair/modification of the wingtip spar 1, and revision of the existing maintenance or inspection program to include a revised threshold and interval for a certain airworthiness limitations task. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI described above. The FAA is issuing this AD after determining

that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

AD Requirements

This AD requires accomplishing the actions specified in ANAC Emergency AD 2022-05-02 described previously, except for any differences identified as exceptions in the regulatory text of this AD and except as discussed under “Difference Between this AD and the MCAI.”

Explanation of Required Compliance Information

In the FAA’s ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has been coordinating this process with manufacturers and CAAs. As a result, ANAC Emergency AD 2022-05-02 is incorporated by reference in this AD. This AD requires compliance with ANAC Emergency AD 2022-05-02 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this AD. Using common terms that are the same as the heading of a particular section in ANAC Emergency AD 2022-05-02 does not mean that operators need comply only with that section. For example, where the AD refers to required actions and compliance, compliance with these AD requirements is not limited to the section titled “Required Action” or “Compliance” in ANAC Emergency AD 2022-05-02. Service information required by ANAC Emergency AD 2022-05-02 for compliance will be available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0597 after this AD is published.

Difference Between This AD and the MCAI

This AD requires all operators to revise the existing maintenance or inspection program, as applicable, to include a reduced threshold and interval for a certain

airworthiness limitations task. The MCAI does not require this action for airplanes with less than 7,500 flight hours after installation of an affected part number.

Interim Action

The FAA considers this AD interim action. The inspection reports that are required by this AD will enable the manufacturer to obtain better insight into the nature, cause, and extent of the cracking, and eventually to develop final action to address the unsafe condition. Once final action has been identified, the FAA might consider further rulemaking.

FAA's Justification and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for "good cause," finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that required the immediate adoption of Emergency AD 2022-11-51 issued on May 13, 2022, to all known U.S. owners and operators of these airplanes. The FAA found that the risk to the flying public justified waiving notice and comment prior to adoption of this rule because cracks on the wing tip connection area can affect its structural integrity to the point of an in-flight detachment. Even if sufficient controllability of the airplane is maintained for the safe continuation of the flight, this condition could result in the detached part damaging other airplane parts and affecting controllability, as well as damaging property and injuring persons on the ground. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to 14 CFR 39.13 to make it effective to all persons. Given the significance of

the risk presented by this unsafe condition, it must be immediately addressed.

Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B). In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

Regulatory Flexibility Act (RFA)

The requirements of the RFA do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 115 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	6 work-hours X \$85 per hour = \$510	\$0	\$510	\$58,650

The FAA has determined that revising the maintenance or inspection program takes an average of 90 work-hours per operator, although the FAA recognizes that this number may vary from operator to operator. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of the inspections. The FAA has no way of determining the number of aircraft that might need these actions:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Reporting	1 work-hour X \$85 per hour = \$85	\$0	\$85
Wing spar 1 rework (per side)	49 work-hours X \$85 per hour = \$4,165	\$2,212	\$6,377
Wingtip spar 1 repair/modification (per side)	111 work-hours X \$85 per hour = \$9,435	\$16,949	\$26,384

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

“Subtitle VII: Aviation Programs” describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-11-51 Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria

Aeronáutica S.A.; Embraer S.A.): Amendment 39-22074; Docket No. FAA-2022-

0597; Project Identifier MCAI-2022-00638-T.

(a) Effective Date

The FAA issued Emergency Airworthiness Directive (AD) 2022-11-51 on May 13, 2022, directly to affected owners and operators. As a result of such actual notice, the emergency AD was effective for those owners and operators on the date it was provided. This AD contains the same requirements as that emergency AD and, for those who did not receive actual notice, is effective on [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes, certificated in any category, as identified in Agência Nacional de Aviação Civil (ANAC) Emergency AD 2022-05-02, effective May 13, 2022 (ANAC Emergency AD 2022-05-02).

(d) Subject

Air Transport Association (ATA) of America Code 57, Wing structure.

(e) Unsafe Condition

This AD was prompted by a report of an in-flight detachment of a right-hand wing tip. Subsequently it was determined that cracks could develop on the wing tip connection area that can affect its structural integrity to the point of an in-flight

detachment. The FAA is issuing this AD to address this condition, which, even if sufficient controllability of the airplane is maintained for the safe continuation of the flight, could result in the detached part damaging other airplane parts and affecting controllability, as well as damaging property and injuring persons on the ground.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Requirements

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, ANAC Emergency AD 2022-05-02.

(h) Exceptions to ANAC Emergency AD 2022-05-02

(1) Where ANAC Emergency AD 2022-05-02 refers to its effective date, this AD requires using the effective date of this AD.

(2) For the first column heading of table 1 – “Compliance Times” of ANAC Emergency AD 2022-05-02, replace “Flight Hours (FH) accumulated from installation of affected PN” with “Flight Hours (FH) accumulated from installation of affected PN as of the effective date of this (FAA) AD.”

(3) Where table 1 – “Compliance Times” of ANAC Emergency AD 2022-05-02 specifies flight hours of “19,800 or greater,” for this AD use flight hours of “19,800 or greater.”

(4) Where paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02 specify correcting “discrepancies,” this AD defines a discrepancy as a crack.

(5) The inspections and corrective actions specified in paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02 must be done using the service information specified in paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02.

(6) Where paragraph (a)(iii) of ANAC Emergency AD 2022-05-02 specifies to “Modify task 57-30-002-0002 of the Airworthiness Limitations Section, on MRB 1621, APPENDIX A - PART 2 - AIRWORTHINESS LIMITATION INSPECTIONS (ALI) – STRUCTURES, to revise its compliance interval” at the times in table 1 – “Compliance Times” of ANAC Emergency AD 2022-05-02, this AD requires revising the existing maintenance or inspection program, as applicable, within 30 days after the effective date of this AD to incorporate the information specified in table 2 – “Airworthiness Limitations Section Updates” of ANAC Emergency AD 2022-05-02; except do not include the information in the “Current Threshold / Interval” column. The initial compliance time for the airworthiness limitations task is within 1,000 flight hours after accomplishment of the tasks specified in paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02; except, for airplanes that have accumulated 7,499 flight hours or less from installation of an affected part number, as defined in ANAC Emergency AD 2022-05-02, the initial compliance time is before the accumulation of 10,000 flight hours from installation of the affected part number.

(7) Paragraph (b) of ANAC Emergency AD 2022-05-02 specifies to report crack findings to Embraer and ANAC within a certain compliance time. For this AD, report crack findings at the applicable time specified in paragraph (h)(7)(i) or (ii) of this AD.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 36 hours after accomplishment of the inspection.

(ii) If the inspection was done before the effective date of this AD: Submit the report within 36 hours after the effective date of this AD.

(8) The “Alternative method of compliance (AMOC)” section of ANAC Emergency AD 2022-05-02 does not apply to this AD.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, Large Aircraft Section, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the Large Aircraft Section, International Validation Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, Large Aircraft Section, International Validation Branch, FAA; or ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

(j) Related Information

For more information about this AD, contact Krista Greer, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3221; email Krista.Greer@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Agência Nacional de Aviação Civil (ANAC) Emergency AD 2022-05-02, effective May 13, 2022.

(ii) [Reserved]

(3) For ANAC Emergency AD 2022-05-02, contact ANAC, Aeronautical Products Certification Branch (GGCP), Rua Dr. Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, Brazil; telephone 55 (12) 3203-6600; email: pac@anac.gov.br; Internet www.anac.gov.br/en/. You may find this IBR material on the ANAC website at <https://sistemas.anac.gov.br/certificacao/DA/DAE.asp>.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on May 26, 2022.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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